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MAR 14 2008

Application No.: 10/529,130

Docket No.: JCLA12006-R

AMENDMENT**In The Claims:**

Please amend the claims as follows:

Claims 1-4 (canceled)

Claim 5. (currently amended) A fuel filling apparatus[[,]] for filling a hydrogen gas into a fuel tank of an automobile that uses the hydrogen gas as a fuel, ~~the fuel filling apparatus~~ comprising:

a heat exchanger[[,]] using a liquid inert gas as a refrigerant to cool the hydrogen gas, wherein the heat exchanger performs a heat exchange with the hydrogen gas to gasify the liquid inert gas to obtain an inert gas, and the obtained inert gas is discharged into the fuel filling apparatus, and the liquid inert gas does not mix with the hydrogen gas, and

wherein the heat exchanger further comprises a first heat exchange unit for cooling the hydrogen gas by an intermediate medium, and a second heat exchange unit for cooling the intermediate medium by the liquid inert gas.

Claim 6. (canceled)

Claim 7. (currently amended) A fuel filling apparatus, for filling a hydrogen gas into a fuel tank of an automobile that uses the hydrogen gas as a fuel, ~~the fuel filling apparatus~~ comprising:

Application No.: 10/529,130

Docket No.: JCLA12006-R

a flow modulating valve, for modulating a supply amount of a hydrogen gas; and

a cooling means using a liquid inert gas as a refrigerant, for cooling the hydrogen gas passing through the flow modulating valve, wherein the liquid inert gas does not mix with the hydrogen gas, and

a control means for controlling the supply amount of the hydrogen gas, wherein the control means further comprises a memory unit for storing a temperature history data base and a control unit for controlling the supply amount of the hydrogen gas by modulating an aperture of the flow modulating valve according to data stored in the temperature history data base, and

wherein the temperature history data base comprises data showing a relationship between a temperature in the fuel tank before filling, a temperature of the hydrogen gas fill to the fuel tank, the aperture of the flow modulating valve, and a temperature in the fuel tank when filling the hydrogen gas.

Claim 8. (canceled)

Claim 9. (currently amended) A fuel filling method using a fuel filling apparatus to fill, ~~for filling~~ a hydrogen gas into a fuel tank of an automobile that uses the hydrogen gas as a fuel by ~~using an fuel filling apparatus,~~ comprising:

cooling the hydrogen gas passing through the flow modulating valve by using a cooling means of the fuel filling apparatus; and

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filling the cooled hydrogen gas into the fuel tank,

wherein the fuel filling apparatus comprises:

a flow modulating valve for modulating a supply amount of the hydrogen gas; and a

the cooling means using a liquid inert gas as a refrigerant for cooling the hydrogen gas,

~~wherein the liquid inert gas does not mix~~ being mixed with the hydrogen gas[[.]]; and

a control means for controlling the supply amount of the hydrogen gas,

wherein the control means for controlling the supply amount of the hydrogen gas comprises a memory unit for storing a temperature history data base and a control unit for controlling the supply amount of the hydrogen gas by modulating an aperture of the flow modulating valve according to data stored in the temperature history data base, and

the temperature history data base comprises data showing a relationship between a temperature in the fuel tank before filling, a temperature of the hydrogen gas fill to the fuel tank, the aperture of the flow modulating valve, and a temperature in the fuel tank when filling the hydrogen gas.

and the fuel filling method comprising:

~~cooling the hydrogen gas passing through the flow modulating valve by using the cooling means; and~~

~~filling the cooled hydrogen gas into the fuel tank.~~

Claim 10. (canceled)